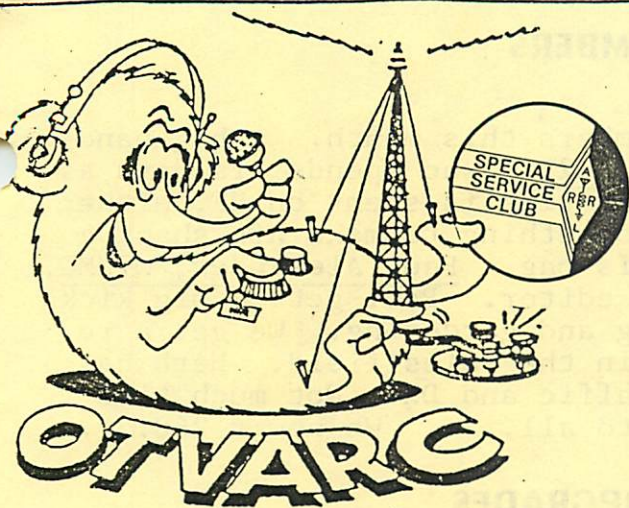




OREGON TUALATIN VALLEY



NOVEMBER 1984

AMATEUR RADIO CLUB

Po Box 5132 Beaverton, Oregon 97006

EDITOR: AL BERG WB7SIC

Membership: 268

CIRCULATION: 320

President: Dave Parker
Vice-Pres: John Haide
Secretary: Linda Cereghino
Treasurer: John Burgess

W7LJN
WA7CZA
N7CZY
N7DCQ

Trustee: Al Berg
Trustee: Randy Cobb
Trustee: Warren Knight
Trustee: John Koenig
Trustee: Jerry Norman

WB7SIC
KA7HJT
N7BIJ
NB7W
ND7T

MEETING: 2nd WEDNESDAY BEAVERTON ELKS AT 7:00 p.m. (Dinner at 6:30 p.m.)

MEETING PROGRAM: COMPLETE PROGRAM DETAILS CAN BE FOUND ON THE BACK PAGE.

1985 OFFICER NOMINATIONS

This upcoming meeting will be the time for you to stand up and nominate a person of your choice for officership contention. For some of the new members, we have a nominating committee made up of three people, who will give us a starting slate which, we hope, will be added to at the Nov. meeting by members present. Ballots will be mailed to each member before December 1 and you may either mail your ballot or bring it to the December meeting, where it (they) will be tallied and an announcement made as to who our 1985 officers are. Obviously, as the tally is taken at the meeting, your mail ballot must be recieved by no later than meeting day which will be December 12. We will be, for a year, who you vote in. Be wise.....

DR. DX REVISITED

A very, VERY big thank you to Mike Lamb, President of AEA, for a beautiful program effort. Dr. DX proved to be a winner, judging from all of the questions asked by the members. We should also thank Portland Radio for the 6 foot color TV set. That little giant was a donation which cost a whopping \$150.00 to rent. If you missed the show, so sorry!!! You can see and operate DR. DX at Portland Radio or Antronics of Oregon in Aloha. By the way, AEA is offering special WAC and DXCC awards. All this and no antenna to buy. Incredible!! Not only that, you can make a serious try at a 'sprint' contest or a 24 hour non-stop, coffee drinking, sleepless night, brass pounding effort to be the current high scorer and get your name and call included in AEAs national advertising campaign. Now that, fellow member, is something to 'go for'. Maybe our contest committee can put together a serious attempt??? 'I LOVE DR. DX.' It's a gas.....

WE WILL BE VOTING ON A DUES INCREASE AT THE NOVEMBER MEETING! PSE ATTEND.



NEW MEMBERS

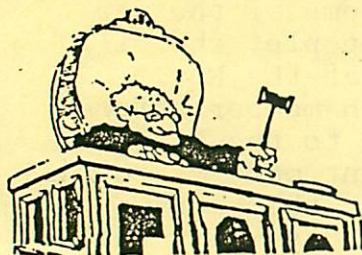
We welcome three new members this month. A big handshake to: Bill Conwell, K2PO, who spends his days as a patent attorney. Spare time is spent on HF, either contesting or building something to make his shack a 'better place to be'. Computers are also his bag. Paul Alexander, W7HMG, is a happily retired agricultural newspaper editor. Paul gets a big kick out of working QRP CW and enjoys woodworking and gardening. We get a re-tread in Herb Hochfeld, KA7LFL who is busy in the sales field. Herb has interests in the higher bands as well as traffic and DX. Not much time for other hobbies so radio is it! Welcome to all..... We now # 268....

CALL CHANGES & UPGRADES

Can't believe it but all we have this month is an upgrade and change for ONE?? member. Hanford Van Ness went to advanced and got the old N7CNW altered slightly to KE7BB. Nice going Van..... C'mon folks. There has to be some other changes we don't have reported. Phone the 'ed' and get a little recognition!!!!

CONVENTION

Our full page ad will be in Worldradio for the month of December. It will be the January issue which comes out in early December—we hope. As is usual, certain feet were dragged at Division level so we can't tell all of the readers whether or not we will have 7th Division status! We will 'damn the torpedoes' (torpedos?) and give it our all in spite of some very tiresome indifference. It is hoped that those of you who have been asked



STOLEN RADIO REPORT

ICOM 245 with SB. Serial #3812
ODL on case. Judy at 771-4667

Yaesu FT208R. Serial #2K210462
Bob at 656-4554

Kenwood 7950 & MC46 mic.
Serial #4050280. Call Portland
Radio at 228-8647

ICOM 2AT. Serial #44650. Ron
Gould, KD7RJ.

Yaesu FT290R all mode 2m rig.
Serial #1H031820 + a Mirage B108
amp with remote control head.
Win Tatso at 246-9865.

*Kenwood TS130 and AT130 tuner.
Inscribed with ND 0530200273.
Call Portland Radio at 228-8647.

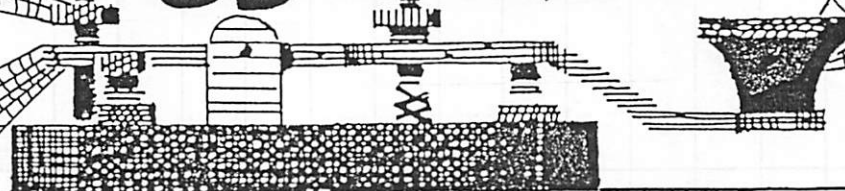
*Yaesu 227R 2m rig and Motorola
speaker. Name on inside and
outside of case. Call Andy,
WB7RKU, at 760-3873.

* indicates stolen recently.

to serve as committee chairpersons will have a semblance of a working group no later than our December club meeting!!! We will have a GROUP meeting around the second week of January and need all of the people who have anything to do with the convention either on hand or well informed as to what is expected and happening. Don't wait! Get it together NOW. Committee reports will be the context of the meeting..... We are working on providing space for an expected increase in commercial exhibits of 30% and flea market participation of around 40%. Where will they all fit? That, fellow members, is the fun part of being involved in a bigger and better convention. We have built a reputation and 1985 will show the results of it. If you thought we had a crowd last June, just wait till our June of 1985 effort. As in the past, one of the most difficult duties we face is insecurity. It is demanding in that we need about 50 people to give a little time to the effort. It seems that we all wait until the last minute to sign up for a 2 hour stint and this gives our security leaders at least seven or eight added grey hairs. When the plea goes out for help on security, please sign up right away. If you have a change of plans later on, no problem! No obligation to you as we will find a replacement. One last thing. As this is, by far, our BIGGEE, please PARTICIPATE!!

OTVARC'S

"RUSTY KEY"



10 METER RUSTY KEY RULES: Thurs., November 15, 1984, 7:30pm to 9:30pm, 28.1MHz. to 28.2MHz.

***OBJECTIVE:** To work as many stations as possible during contest period and in so doing promote the spirit of friendly competition and sportsmanship. To improve our proficiency in C.W. and give all OTVARC members a chance to meet new friends. New or inexperienced operators are especially invited to participate.

***EXCHANGE:** Call/operating class, name, QTH and RST. Signatures will count extra. (OK to abbreviate your operating class and QTH, i.e. K7JF/AE, PDX, VAN, etc.)

***MULTI-OP** Stations are O.K. one transmitter, and one receiver only. Control ops of Novice or Tech. multi-op stations must operate for reasonable part of contest.

***SCORE:** Add 4 points per Novice or Technician station contacted. Add 2 points for all other stations contacted. Add 1 point for each operator worked during the contest that you meet in person and obtain their signature. Signatures must be collected on separate papers and submitted attached to log. Do not discuss your score with others involved with the contest. Contest is not restricted to club members. Duplicate contacts do not count even if with different operator.

***LOGS:** Use your choice of log, or pick up log and rules sheet at club meeting. Logs and signatures are due postmarked no later than December 17, 1984. Send logs to:

OTVARC, P.O. Box 5132, Beaverton, OR 97006.

***PRIZES:** Once again the coveted RUSTY KEY plaques will be awarded to the contest winner and runner up. Also presented will be most CONGENIAL/BEST OPERATOR rotating TROPHY, courtesy Antronics of Oregon, please vote for the operator you feel qualifies for this on the bottom of your log. Everyone who submits a log will receive a special RUSTY KEY certificate and recognition in OTVARC NEWSLETTER.

THIS CONTEST IS OPEN TO ALL. THE MAJORITY OF CONTESTANTS WILL BE IN THE TUALATIN VALLEY AREA. IF YOU RESIDE IN AN AREA THAT WILL ALLOW YOU TO HIT BEAVERTON, HILLSBORO, TIGARD, LAKE OSWEGO AND SURROUNDING AREA ON 10m, BE SURE TO TUNE UP AND HAVE A LOT OF FUN. TO OUR KNOWLEDGE, THIS IS THE ONLY LOCALIZED CONTEST OF ITS KIND! QUITE UNIQUE AND A 'REAL BLAST'. QRZ????

After the 'test', tune to 28.310 for a SSB announcement of a possible get-together at a pizza parlor in the Beaverton area so we can all swap lies. You might also listen on 2m at 147.040 or 147.32 for information. CU.

* PDX = PORTLAND TIG = TIGARD ALO = ALOHA
BVR = BEAVERTON HIL = HILLSBORO DX = OTHER

OTVARC RUSTY KEY CONTEST NOVEMBER 15, 1984

MY CALL:		MY VOTE FOR BEST OP IS:				TOTAL CLAIMED:			
CALL WORKED	NAME	QTH *	RST	CALL WORKED	NAME	QTH *	RST		
1				22					
2				23					
3				24					
4				25					
5				26					
6				27					
7				28					
8				29					
9				30					
10				31					
11				32					
12				33					
13				34					
14				35					
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16				37					
17				38					
18				39					
19				40					
20				41					
21				42					



This is the month for nomination of officers and trustees for OTVARC. I ask that you think very carefully about members that you think would contribute to the clubs growth and stability. The nominating committee is coming up with a list of nominations, but it is by no means the only list of candidates. Each of you are entitled to nominate candidates from the floor at the November meeting and are encouraged to do so if you think another name should be put up for any office. The thing that has made OTVARC as successful as it has been is the membership. The officers guide and preside at meetings, but the committees and the general membership make the club.

It has been very gratifying to me to watch the club grow the size it has over the last year. We had a bumpy start with the resolution of the Constitution and By-laws. We weathered the attempt to destroy the club by a few, but it was YOU the DEDICATED GENERAL MEMBERSHIP that overcame that problem. The night YOU voted in the new documents with the single dissenting vote was a very emotional time for me. The BY-LAW COMMITTEE put in many long, sometimes very lively, hours arriving at the consensus that gave us the changes necessary to make the Constitution and By-Laws work. It was not the Officers, but YOU as represented by the BY-LAW committee that made the changes. The Officers were deliberately left out of the direct process to insure that there could not be any claims of misuse of power. With this in mind remember that your vote counts and will continue to help OTVARC thrive!!!

While I am on my soap box I would like to make you aware the efforts put forth by one member to the success of OTVARC. I did not realize before becoming president how much of the clubs success depended on Al Berg WB7SIC. He puts in countless hours preparing the newsletter. When I say countless I mean many many hours. I get calls at all hours of the day and night about the newsletter and how my procrastination is screwing him up on his schedule to get the newsletter out. You can call Al on .32 at most hours of the night and find him at his typewriter. The newsletter is a task much larger than I had imagined. Next time you see Al thank him for his time and let him know how much we appreciate his dedication and efforts.

The committees are the second most important influence on the success of the club. It is the committees that come up with the activities and make them work. It is through the committees that YOU can contribute to the success of the club. If you wish to be on a committee contact the committee chairperson or any of the officers and let them know your desires. Don't be afraid to step forward, we all had to start sometime and your efforts are appreciated, and you can't make a bigger fool of yourself than I do.

The last and most difficult subject to deal with is dues. We have for the life of the club had a \$5.00 dues charge. The growth of the club and increased postage charges have made it difficult to support the newsletter publication expenses. When the club was smaller it was easy to get donated copy services. With the newsletter at ten sides that means 3000 copies to make 300 newsletters. If your office has a copy machine see what your boss would think of your making 3000 copies a month at company expense. I think you see what I am talking about. As I explained at the last meeting OTVARC now owns a Cannon NP155 copier with service manual. To cover the additional expense of postage and copy supplies for the machine the board of directors and officers decided to raise the dues to \$8.00 per year from \$5.00. The short-fall in the newsletter costs is made up by the advertising in the newsletter. The convention, drawings, donations and purchase credits at PR & Antronics make up the rest of the clubs annual income. In making the decision to raise the dues there was much research into projected annual costs and at what membership level the club would maintain. N7BIJ will give you a breakdown on how the costs were arrived at at the meeting. I am sure you will see the need for the increased dues to the life of the club. We are the largest and most active club in the area and there is no reason that we should not continue to grow throughout next year. I wish we could do like the federal government and just print more money when we need it, but the secret service takes a dim view of that method of support. I guess my endless chatter has gone on long enough.

Lets have another great year in 1985!!! 73, W7LJN



ONCE IN A GREAT WHILE-----

I feel the urge to get on the old soapbox and unload. It has been awhile since I have. LGN and some recent events make the urge uncontrollable so I will begin by thanking Dave for the kind words regarding time spent on the newsletter. Yes, it does take a lot of time and if you want to know how much I will tell you!

Before we got the copier last early September, it was taking close to forty hours a month to put this paste up together. Now that a copier is available it has cut the time to around thirty hours. I know, some of you might not believe me but if you would like to come and bunk here for a month to disprove me, come on over. Before I go any further I want you to know that what I have to say about our copier is not in defense of us buying it but to let you know why we HAD to. For the past four and a half years we have relied on donated copying. Last July a fellow who was not a member but a pal of our Prez, offered to do two pages for us. Well, his boss didn't like that and to save his job, our Prez had to fork over \$60.00 out of his very own wallet.... Folks, when things reach that kind of state, it is time to make some changes. Now you might say to heck with that! Lets cut the size of the 'letter' down to a couple of pages!! Great! I go for it! But it wouldn't do any good. With a two or three pager we would have to do away with the advertising which pays for postage and we are still out \$60.00 a month to Uncle Sams PO. We would still have the problem of a copying donation and I would still be driving to and from your friendly Print Rite center every other day. You wouldn't believe what it takes to replenish the many club forms, the need for reduction and, less often, the need for enlargement of various things that make up your 'letter'. What we have paid for is a guarantee of continued newsletter service to you who want to know what our 'program' this month will be, what is happening out there that you won't find in 73 or Ham Radio, what club events are looming in the future and, most important of all, give the many hams in our club who work nights, are handicapped or are too aged to drive at night, a little feeling of 'belonging and unity'. Come January of 1985 I will be entering my sixth year of fussing with whiteout, late donations, postage increases and most worrisome of all, what YOU want to read about. I have been asked any number of times why I spend the time that I do on our 'letter' and it has always been my habit to tell the inquirer that I do it only because I enjoy it. I worked all states as a novice and I nailed DXCC early on. Now I get a kick out of editing. Ego trip? Sure it is but so is a 5 band WAS or a 519 report from Senegal. We do what we do because it is there! I enjoy what I do and hope that you do also. I can summarize this rambling by saying, very simply, I deeply appreciate the Boards decision to do what was necessary and I appreciate the opportunity to do what I can to make our club the best it can be... There has been a lot of 'I' in this and as it is an editorial it is to be expected. I don't get much of a kick out of promoting ME. What WE would like to see in the newsletter is a lot more of YOU. This cannot be done if YOU don't let the editor in on what YOU are doing. Such as an upgrade, a new baby in the fold, your thoughts on club doings, suggestions for improving our activities, technical input or ANYTHING that the members might find of interest. The most interesting newsletter would be one in which club members were responsible for ALL articles. If you don't believe that, call the editor of any local clubs 'letter'. Want to bet on it? The copier has been used to do the September, October and November 'letters' as well as about 75 rosters per month. The only other use it has had is in making about 100 issues of our Constitution and By-

OREGON SM REPORT

OREGON: SM, William R. Shrader, W7OMU — STM: W7VSE, SEC: N7CPA, PIO: KC7YN, SGL: KA7KSK, ACC: WB7WTD, RFI: AK7T, OO: N7SC, STC: N7ENI, Upgrades: KA7OPP (Tech); KA7IKN KA7CXP KD7WD (Adv). Congrats. This list should increase in length with the new VE exams being administered throughout the section. Big news for Amateur Radio this month was the saving of at least one life during the Willamette Raft Race for Muscular Dystrophy due to the excellent communications team of KA7QQV WB7OEX KD7YB KA7CUI KA7KDM and others. They were members of the Marion-Polk ARES group and coordinated two rescues during the race. McMinnville ARC display at the Yamhill Co. Fair was a success. W7TC KA7FEE KA7FEF and WB7NLP are the first members of the Amateur Auxiliary of the FCC Field Operations Bureau. KB7CW proud father of new YL harmonic. Father Moran, 9N1MM, will be in Portland in early September sponsored by the OTVARC, Hoodview ARC, and the Willamette Valley DX Club. Large group of traffic handlers on PSHR this month: AL7W W7VSE WA7VTD N7DOC N7BGW KX7W WB7OEX KX7T. Great work! OSN totals: ONI 577, QTC 734. Traffic: W7VSE 523, W7LRB 215, W7ZB 182, AL7W 170, K7OVK 127, KX7W 109, N7DOC 99, KX7T 74, WB7OEX 71, N7BGW 33, W7DAN 1. (July) W7LRB 26.

Laws. The copy counter now reads 14,507!!! Surprised? I had a fair idea of the volume but the current reading still was a bit of a shock. Nuff said....

I KNOW we have a large number of members who are ready, willing and able to lend a hand in some way. In most cases they will not be asked to help but left to (volunteer) fend for themselves. Such it must be! It is very difficult for a committee chairman to sit down with our huge roster and pick, from all the strangers, a person to ask for help in some specific area. Far better that those of you who want to get involved give a phone call to the committee which you would like to get involved in. It is very rewarding to work on one. I used to sit in the back row and keep my big mouth shut. Sure glad I stepped forward!! CU. WB7SJC



ACTIVITIES

A gunman suddenly appeared at the paymaster's window in a large plant and said: "Never mind the payroll, just hand over the withholding taxes, group insurance premiums, welfare fund and pension fund payments."

EMERGENCY SERVICE REPORT

We had our Simulated Emergency Test on Saturday, October 20. It was a complex SET involving Washington and Clackamas counties and the Portland area. The scenario was a Columbus Day type storm with minor flooding, some power outages and no telephones.

There were about 30 messages passed and the main purpose was to test the procedure outlined in the agreement between the Radio Advisory Group and the Red Cross for emergency preparedness. Janet, WB7FJC, was stationed at the first aid center at Sunset High School parking lot. Bud, KC7PS, was at the first aid center of the Beaverton Mall and Rick, KA5OLH, was doctor in charge of the parking lot at St. Vincents hospital. Lorna, KA7RFD, was net control (still wondering what Florence Nightingale was planning to do with those 2 man crews in four wheel drives with chain-saws??) with admirable assistance from Ralph, WB7VGS. In all, about 25 members of OTVARC were involved.

There were a few glitches but all in all it went well. Many of the participants met after the SET for a critique and decided to try another in about six months.

Randy - KZ7T

PUBLIC SERVICE:

October often means rain but a little drizzle doesn't stop marathon runners. We served at three runs last month.

October 7 was the Dr. Scholls Pro-Comfort 10k run which attracts world class runners. It was a series of runs held around the country with a \$100,000 prize for the winner of the series. Portlands addition to the series was very well received with about 1000 entries. The wx was dry and about 60 degrees.

The second run was Strohs Statue of Liberty run. A benefit for the restoration of the Statue of Liberty. It was a rainy October 13 until it was time to start the run. The clouds held up and waited for the 1500 runners to complete the 8k course thru downtown Portland before opening up again.

The third run was an 8k run from Duniway Park to Hilltop restaurant and return. Again the weather co-operated long enough for the run to take place.

A big thank you to KZ7T, Randy, KA7KNG, Sherrill for working all three events and to Jenny, KA7SSX, who worked the first two.

On all runs one ham was stationary at the start/finish line and the others were in the lead trucks. Handhelds with mag mounts were sufficient equipment for the short runs.

Thank you to the ARRG people for the use of the 147.04 repeater for the three activities.....



XMAS PARTY!!

MAKE
PLANS
NOW.

OTVARC VIC/COMMODORE USERS GROUP

Now that summer is over I would like to know of those interested in restarting our user group. If you are interested please give me a call in the evening at 649-4540. Doug, N7CDI.

(ed note) Doug is really up on user group sessions. If you are a newer member and have either a Vic 20 or Commodore 64, don't be bashful. Give

him a call and express your interest. If you have good experience you could be a real asset to those getting started. Give a call.....

PUT 'EM IN JAIL!

A proposed amendment to the Communications Act could put jammers in jail. (Story by Mike Sullivan, WA6HJJ.)

Congressman Jim Bates of San Diego, California, will soon be introducing a bill that would amend the Act to make willful and malicious interference a criminal violation, rather than the administrative violation it is now. The concept behind the proposal was originated by attorney Jim Allen, W6OGC. He found, after reading the complete text of the Communications Act, that the subject of willful interference was not really dealt with.

The Allen proposal, being introduced by Congressman Bates, would make it a criminal offense for any person within the jurisdiction of the United States to willfully or maliciously interfere with or cause interference to any radio communication service, including amateur radio.

Under the proposed amendment, a first offense would be considered a misdemeanor, punishable by a fine of up to \$10,000, imprisonment for up to 1 year, or both. Repeated offenses would be considered as felonies and would bring the same fine and up to 2 years in jail.

Provisions would be made so that upon identifying an interfering signal, and FCC Engineer in Charge could get arrest and search warrants through a US Attorney and then have them executed by US Marshals. This could result in the immediate incarceration of the offending person and the seizure of all equipment used in the commission of the crime.

The proposed amendment already has the endorsement of FCC Field Operations Bureau Chief Richard M. Smith.

Why can't life's big problems come when we are 20 and know everything?

ALASKAN PIRATES ON 2 METERS

Unlicensed operators are running rampant on 2 meters along the Alaskan coast operating with seeming impunity, according to Doug Dickinson, KL7IKX, writing in the September 1984 issue of the Anchorage Amateur Radio Club Newsletter.

Dickinson wrote that his recent monitoring of the 2 meter band revealed: "...over 50 boats, a dozen canneries, a couple of airplanes and some other unidentified stations" constantly on the band. "They are 100% convinced that 2 meters is their private domain," Dickinson wrote, adding, "Daily routine operations include death threats, really obscene language, business and tips on how to avoid the fisheries folks."

KL7IKX noted that this is not a new problem and that several years ago a major complaint was filed by Alaskan hams with the FCC. No action was taken then, with the government reportedly claiming a shortage of enforcement manpower. Dickinson says that he intends to file another detailed complaint, but seriously doubts that any enforcement action will be taken.

Doug lays the blame for this mounting problem on the fact that just about anyone can purchase a two meter radio whether licensed or not. He adds: "There are plenty of dealers in commercial equipment that love the dollar more than anything else."

A similar situation exists, though to a lesser degree, in the Seattle area where increasing pressure from that city's amateur radio community finally forced the FCC to act against a number of 2 meter pirates. Some radio gear was seized in that enforcement effort. (See WLR-406)

(Pub. comments: For several years, many in the Amateur Service have called for some form of point-of-sale control of transmitting devices. The number of unlicensed radio transmitters already in the hands of the public is staggering--and not just amateur gear. Malicious interference is occurring on Marine, telephone and commercial frequencies, as well as on police, fire and aviation channels. Senator Goldwater's S.2975 will increase the penalties if a violator is caught, but would it be better to control the problem at its source?

GOT SOMETHING To Sell?

It's
you
and



CLASSIFIED ADS

FREE!

FOR SALE: Swan beam TH 4 Tribander \$ 100, AR 44 rotor upgraded (bearings etc) \$ 50, Crank up tower 50 ft. \$ 200, Heathkit 1kw tuner \$ 100, 4-1000 linear amplifier kit with power supply, all parts and cabinet \$200. Call Bob W7LYK at 645-1416

FOR SALE: New Commodore Printer 1526, letter quality, also includes word processor software. Must sell \$225 or offer. Call Chuck KA7DEW at 640-5156

To BUY - SELL - TRADE Call Jim KA7TAC at 246-5457

VISIT YOUR LOCAL RADIO STORE

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Vancouver, WA 98664
(206) 254-4441

Heathkit Remote Coax Switch

\$89.95

- Use a single feedline to select from up to four antennas

The remote unit is rain tight and contains the RF switches that permit selecting the desired antenna. The unit is easily mounted with a single clamp. The control unit contains the power supply and provides switching signals to the remote unit. A front panel switch permits selecting the desired antenna. The Remote Coax Switch will handle 2000 watts PEP VSWR of 1.15:1 or less below 30 MHz.

J-1481, Shpg. wt. 5 lbs. 89.95



N NORVAC ELECTRONICS

644-1025

12905 S.W. BEAVERDAM ROAD
BEAVERTON, OREGON 97005



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TOOL CASES
TUBING
FUSES
BATTERIES
POWER SUPPLIES
LAMPS
CHEMICALS
SOLDER SUPPLIES

SOLDER/DE-SOLDER TOOLS
BREADBOARDS
WIRE WRAP TOOLING
KEYBOARDS
SOCKETS
SPEAKERS
POTENTIOMETERS
MICROPHONES
CRYSTALS
ELECTRONIC HARDWARE
PHOTOFACTS
P.C. BOARD SUPPLIES
TECHNICAL PUBLICATIONS
TECHNICAL PERIODICALS
SOFTWARE
S100 BOARDS
OUTLET STRIPS
LINE FILTERS
CONVERTERS
ANTENNAS



COMING UP

VERY IMPORTANT!!!!!!!

MARK YOUR CALENDAR

On the weekends of December 8/9 and December 15/16, we are working on the first annual and exclusive OTVARC and Portland area Lions Club phone book pickup where all proceeds go to the Lions Eye Bank Clinic.

Mark those weekends on the calander....This is the major income event for the Eye Clinic. It is held every year and this year we, as hams, have been asked to facilitate communications in the distribution of National Guard trucks to drop sites. There are about 72 positions open for the two week-ends. HELP! HELP! We need everyone to get out and support this event so no one ends up working all day, both days nor both weekends. Remember, the more operators we have to help the shorter the shifts will have to be. This is the first time amateur operators have been asked to assist! Lets show the PDX Lions Clubs how OTVARC can perform when needed. Don't be shy. It can be fun and it is certainly for a good cause. Also good PR for amateur radio.

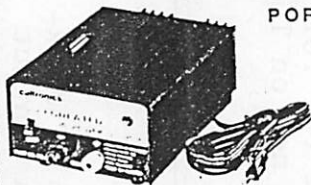
Sign up will be available at club meeting on the 14th or contact the following any night on the ARES 147.32 net at 7:30 pm or the OTVARC net on Tue. at 8:00 pm on 147.34.. Thanks! KA7KNG, KZ7T, KC7PS, and N7DUJ.

PUBLIC SERVICE

There are still positions open to assist in the SPORTS CAR CLUB OF AMERICA national road rally on November 17 and 18. For information contact Lea Ball, AL7W at 777-1032. Last year the majority of radio operators at this event were OTVARC members. A real fun and exciting opportunity.

COUPON SPECIAL

PORTLAND RADIO SUPPLY



WITH THIS COUPON

\$27.95

3 AMP PWR SUPPLY

REG. PRICE: \$34.95

COUPON SPECIAL

PORTLAND RADIO SUPPLY



REG. PRICE: \$63.95

\$49.00

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MFJ 901 TUNER

COUPON SPECIAL

PORTLAND RADIO SUPPLY

MFJ VHF CONVERTER

WITH THIS COUPON

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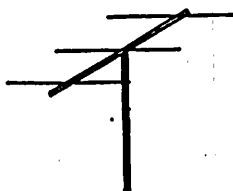
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WHAT'S WHAT IN MONOBANDERS

37 top performers plus the

"Antenna Height Truth Table"



There seems to be a great interest among the amateurs now possessing tribander/dipole configurations to expand their horizons by going the monobander route and the rhetoric contained in advertisements, some of the word-of-mouth theory, and logic pertaining to monobander installations is, at best, confusing. We will try and do some sorting of facts and figures to enable one in making a monobander choice.

Although there are many monobander manufacturers, we chose to tailor this article around five manufacturers who seem to be the most popular and prevalent within the amateur ranks: The Cushcraft, Hygain, KLM, Telrex, and Wilson companies. Our article is set around 37 monobanders manufactured by these companies for the 10, 15, and 20 meter bands, from 3 element configurations all the way up to an 8 element assembly. We have included an outline of the antennas for each band versus the number of elements and have rated the manufacturers in order of sheer gain although, as the article outlines, there are other factors that one should consider when purchasing a monobander assembly.

Bandwidth . . . In analyzing the bandwidth aspects of the antennas, we looked at it in two different perspectives. First, width at 1.5 VSWR and at 2.0 VSWR. Of course, with the advent of solid state equipment, we were a little skeptical in recommending anything that had end-to-end points of 2.0 as the SWR shut down protective circuitry of most solid state units would not like a 2.0 SWR; that was not too much of a problem in as much as adequate bandwidth can be obtained with all the antennas involved with a 1.5 or below SWR versus the indicated band width which is expressed in kilohertz.

This antenna article was taken from a magazine called Amateur Radio Profile. It went down a couple of years ago for some reason. It started as a quarterly 'Consumers Report' style of publication which dealt with testing and comparing of amateur gear. I hope that the majority will enjoy and benefit from this article. The report is dated so several of the newer antenna systems are, of course, not discussed.

Front to Back Ratios . . . In analyzing the front to back ratios of the antennas involved in the program, we did not see anything that stood out as being spectacular, with the exception of KLM's dual driver system which exhibited the best F/B ratios we've seen! All others averaged in the 20 to 30 db range, which would be acceptable in a Yagi configuration of the type tested. Half power points, however, are relative to boom length. In other words, the longer the boom, the narrower the projection plane, thus the greater concentration of output power. It becomes the old theory of the floodlight versus the spotlight and obviously, you would like your power projected in a narrow frame versus a broad expanse. Thus, one of the many reasons why the longer boomed assemblies have a higher gain factor.

Construction . . . Construction sturdiness on all antennas was adequate; however, if you reside in one of our more inclement regions, one with high winds and a long ice and snow season, then certainly the consideration in a monobander has to be given to Telrex. If you analyze the weight statistics, you can readily see that the Telrex company has really built the "hail and hardy" into their antennas. We were amused at one point where it was brought to our attention that a Telrex element on the big 20 meter assembly was almost as big around in diameter as Cushcraft's boom on their 3 element 10 meter assembly. Without a doubt, we would have to give the sturdiness and construction award to the Telrex company. Next, we would have to rate Wilson. Third would be KLM and Hygain and last would be Cushcraft. We personally do not like Cushcraft's mounting of elements with C clamps, but prefer the lock down saddle clamp, element mounting assembly or, if the boom is of proper size, the through-the-boom mounting technique.

We were impressed with the long boom assemblies of KLM and the dbd figures that were developed for these assemblies. Other than that, there were practically no surprises as all antennas came very close to the operating figures as established by the manufacturers' advertisement sheets, thus it almost becomes a "me, too" affair with weight, construction, your geographical location, and cost, as the main point of selecting a particular manufacturer. Because there are no commercial offerings pertaining to monobander quad assemblies, they were obviously left off, but there have been monobander assemblies built for 10, 15, and 20 meters, four elements with booms 34 feet and under, then tested against a known 3 element monobander on a calibrated logarithmic FS system and Wayne Overbeck's calibrated Audio-VU system (OST 10/77). At 105, 3000 meters and 10,520 kilometers, results were computer analyzed and at resonance, they achieved gain figures equalling the best five element monobander configurations have attained, with superior F/B ratios (plus 10-18 db).

Certainly there's a wide, diversified selection of

TEN METERS									
Manufacturer	Model No.	Elements	Boom Length	Man. Gain	ARP Gain	Bandwidth	Front/Back	Weight	
1. Telrex	10M313	3	14'	10.0	10.2	660KHz	32	21.3	
2. Cushcraft	10-3CD	3	12'	8.0	9.7	680	31	11.4	
3. Hygain	103BA	3	8'	8.5	8.7	645	35	14.1	

1. Cushcraft	104CD	4	17'	10.0	10.2	620	32	11.3	
2. Wilson	M410A	4	12'11"	10.0	9.9	600	28	21.2	
3. KLM	4	4	10'	7.7	9.6	650	39	13.3	

1. Wilson	M510A	5	26'	12.0	11.2	640	37	35.4	
2. Hygain	105BA	5	24'	12.0	10.9	685	31	26	
3. Telrex	10M523	5	23'	13.0	10.9	640	34	64.1	

1. Telrex	10M636	6	35'	14.6	11.6	640	31	86.3	
1. KLM	6	6	27'5"	11	11.6	610	41	27.2	

FIFTEEN METERS									
Manufacturer	Model No.	Elements	Boom Length	Man. Gain	ARP Gain	Bandwidth	Front/Back	Weight	
1. Telrex	15M317	3	17'	10	9.9	340	26	37.4	
2. Cushcraft	15-3CD	3	14'	8.0	9.4	310	33	22	
3. Hygain	153BA	3	12'	8.5	8.7	355	34	23.4	

1. Wilson	M415A	4	24'2"	10.0	10.3	340	31	26	
2. Cushcraft	15-4CD	4	20'	10.0	10.0	330	33	24.4	
3. KLM	4	4	14'	7.7	9.7	380	39	20.1	

1. Telrex	15M532	5	37'	13.0	11.0	310	27	97.3	
2. Wilson	M515A	5	26'	12.0	10.3	380	31	42.2	
3. Hygain	155BA	5	26'	12.0	10.3	315	30	38.1	

1. KLM	6A	6	36'	10.5	11.2	320	39	58.1	
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1. Telrex	15K845	8	45'	15.0	11.8	390	32	144	
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TWENTY METERS									
Manufacturer	Model No.	Elements	Boom Length	Man. Gain	ARP Gain	Bandwidth	Front/Back	Weight	
1. Telrex	20M326	3	26'	10.0	10.2	270KHz	34	69.2	
2. Cushcraft	203CD	3	18'	8.0	9.1	210	29	28.7	
3. Telrex	20M317	3	17'	8.5	8.7	265	28	40	
4. Hygain	203BA	3	16'	8.5	8.6	290	30	31.3	

1. Telrex	20M436	4	36'	11.0	10.3	285	33	106	
2. Cushcraft	20-4CD	4	32'	10.0	10.1	260	33	54	
3. Wilson	M420A	4	26'	10.0	9.9	215	27	49.1	
4. Hygain	204BA	4	26'	10.0	9.9	225	24	37.2	
1. KLM	4A	4	21'	7.7	9.7	265	40	48.1	

1. KLM SA	SA	5	42'	9.7	10.6	260	42	64	
2. Telrex	201M536	5	36'	12.0	10.4	285	36	115	
3. Hygain	205BA	5	34'	11.8	10.2	210	32	63	
4. Wilson	M520A	5	34'2"	11.5	10.1	275	34	69	

1. KLM	8A	8	57'	11	11.5	295	41	93	
2. Telrex	20M646	6	46'	14.0	11.0	220	33	171	

monobanders available to the amateur; however, there is one important fact that must be taken into consideration. Irrespective of what your choice of antenna is, its height above ground is probably the most important antenna-related decision you'll have to make.

Let's go one step further to emphasize the antenna height factor by presenting the following. Let's select for our antenna the strongest 20 meter assembly available, the KLM 57 foot boom, 6 element arrays for 20 meters. Let's mount that antenna 2 wave lengths high at 131 feet. Let's take a second KLM and mount it at a 50 foot height. Assume

the high assembly is owned by amateur A and the lower assembly is owned by his neighbor, amateur B, and they are both very ardent DX fans. The Maximum Usable Frequency, the status of the F-layer are at average conditions. A morsel of rare DX appears on the band at a 15,000 mile distance, both amateurs are running the same basic 1 KW station with an EPR of approximately 10,000 watts . . . all right, let's analyze the situation. Amateur A, with the higher antenna 2 wave-lengths up, will have a horizontal take-off angle of approximately 8 degrees. His first hop will get him in the range of 2400 to 2600 miles, thus, to cover the 15,000 mile distance, his signal will skip/refract approximately 5.7 times before reaching its destination. Now let's look at amateur B. His antenna is sitting at 50 feet and will have a take-off angle of

Father: "So you want to become my son-in-law?"

Suitor: "No sir, I really don't, but I want to marry your daughter so how can I avoid it."

"ANTENNA HEIGHT TRUTH TABLE"

Wave-length Above Ground	Major/Minor Radiation Angles	Antenna Height At Boom			Max. Distance of First Skip	15,000 Mile QSO		Arrival Signal
		10 Mtrs.	20 Mtrs.	40 Mtrs.		No. Skips	DB Loss	
2.00	8-22-39	65.2°	87.6°	131.0°	2600	5.7	98	S-9
1.75	9-25-45	57.0°	76.7°	114.7°	2400	6.2	106	S-8.3
1.62	10-27-51	52.8°	71.0°	106.2°	2300	6.5	110	S-8
1.50	11-30-56	48.9°	65.7°	98.3°	2200	6.8	116	S-7.8
1.25	12-36-00	40.7°	54.8°	82.0°	2160	6.9	118	S-7.5
1.18	13-39	38.4°	51.7°	77.4°	2100	7.1	121	S-7.3
1.12	14-42	36.5°	49.1°	73.4°	2050	7.3	124	S-7.1
1.06	15-44	34.5°	46.4°	69.5°	2000	7.5	127	S-6.9
1.00	16-47	32.5°	43.8°	65.6°	1910	7.8	133	S-6.5
.93	17-53	30.3°	40.7°	61.0°	1825	8.2	139	S-6.3
.87	18-60	28.3°	38.1°	57.0°	1780	8.4	143	S-6.1
.81	19-67	26.4°	35.5°	53.1°	1700	8.6	150	S-6.2
.76	20-75	24.4°	32.8°	49.1°	1650	9.09	154	S-6.7
.62	25	20.2°	27.2°	40.6°	1500	10.0	170	S-6.1
.44	35	14.3°	19.3°	28.8°	1000	15.0	255	S-3.4
.37	45	12.0°	16.2°	24.2°	750	20.0	340	S-2.6
.25	90	8.1°	11.0°	16.4°	500	30.0	510	S-1.7
.12	90	3.9°	5.3°	7.8°	420	35.7	607	S-1.4

approximately 20 degrees. In order to cover the same distance, his signal will refract approximately 9 times before reaching its destination. Now bear in mind, each time one's signal refracts, there is a loss due to absorption in the ionized F-layer, depending upon conditions. This absorption factor can be anywhere from 6 to 18 db. Without boring you with mathematics involved, the higher antenna of amateur A will arrive at its destination 3 plus S units stronger than the lower antenna of amateur B. Thus, it isn't difficult to figure out at what height you'd like your antenna in the above set of circumstances. However, the situation can reverse itself on shorter distances. For instance, during a state side contest where you would want to drop your signal in the 1600 mile range, the lower antenna would do it much more efficiently, whereas the higher antenna would certainly go over the top of the 1600 mile point and depend upon its minor lobes for reception at that distance.

At this point, let's refer to the enclosed "Antenna Height Truth Table". A great deal of interesting information can be derived by carefully studying the table. First of all, we have listed all wave-lengths from 2.0 to .12 and their corresponding radiation angles, both major and minor lobes. We've also indicated what the height factor, at the boom, would be for the major radiation angle on 10, 15, 20, 40, and 80 meters.

A number of interesting comments - First of all, at any boom height above 1.18 wave-lengths, there are minor lobes of considerable strength filling in voided areas within the distance of the first skip. For instance, the two wave-length antenna would cover 2600 miles with its 8 degree lobe, 1600 miles with its 22 degree lobe, and 900 miles with its 39 degree lobe. However, there are still remaining voids that are rather obvious, thus the reason for the employment of two antennas at different heights as explained further in the article. In addition to showing the maximum distance on the first skip, we have given you a theoretical, but logical, synopsis that would bear out the above explanation between amateur A and B. Referring to the chart, let's touch on it once again. Amateur A's antenna, at 130 feet on 20 meters, would

cover a 15,000 mile contact in 5.7 skips. The absorption into the F-layer would negate his signal by approximately 98 db. Supposing, in the interest of argument, his signal report was an S-9; now, amateur B, at the 50 foot height, would only cover 1650 miles on his first skip and, in order to make the 15,000 mile contact, would employ 9.09 skips for an absorption factor loss of 154 decibels and his reporting signal would be an S-5 plus, or the graph listed as an S-5.7. Thus, the 3 S units' difference between amateur A and amateur B.

You can certainly employ the chart in many different fashions in calculating the probability of different heights versus different angles, etc. and, if you're in the precarious position with a "Big Gun" neighbor such as I and he continually whips you in head-to-head on-band confrontations and his antenna is a tad bit higher than yours, you can utilize the chart to figure out what exactly is happening, provided your effective power ratio are very close together. Certainly in planning for future antenna installations, this chart should be of paramount interest and importance.

Right away, we are led to the obvious question that, "In order to do the ultimate job, it looks as if two antennas per band should be employed". Yes, in order to cope with the full span, many amateurs have resorted to dual antennas per tower, per band. For instance, the 20 meter assembly would be mounted at 131 and 82 feet, the 15 meter assemblies at 87 and 55 feet, and the 10 meter assemblies at 65 and 41 feet, all covering radiation angles of 8-22-36-39-90 degrees. Playing the odds with the MUF and the ionized refraction layers, this setup would give you ideal conditions in which to cover everything up to the first 2700 miles with one skip and then enable the user to cover anything in his DX choice with a minimal amount of refractions, thus preserving the strength of his signal!

Of course, we're talking about the ultimate and indeed a very, very expensive setup. One avenue of approach which, to my knowledge, has not been explored to any great degree, however, the logic behind it bears conversation:

We agree that tribanders do not possess the efficiency that a monobander does; however, the difference is indeed very slight, especially when talking about the large long boom tribander, such as the KLM KT34XA, the Wilson 40, Telrex TB6Em, the Wilson, Hygain, and Mosley 6 element, 24 foot boom, tribanders. They all exhibit gain of 9 to 10 plus db on 10, 15, and 20 meters. Of course, this gain would be comparable to many of the monobanders out on the market. Why not mount one of the bigger tribanders on a 120 foot crank up tower that is motor-driven, remotely controlled from the shack. Right away it's easy to visualize the merits of this assembly. First of all, you have adequate forward gain potential from the antenna on all three bands. Secondly, you are able to control the height above ground and based upon conditions, are able to select the angle of your choice in playing the percentages against the propagation factors, for all radiation angles from 8 to 90 degrees can be covered on all three bands. Logic dictates that an assembly of this type would be far more superior to a single monobander antenna at any given height up to 120 feet and it would seriously challenge and probably surpass any locked dual antenna, single tower, single band configurations simply because of its vertically mobile situation enabling it to capture optimum radiation angles versus conditions. Rather than go for a three tower, 6 antenna setup, logic dictates that a single, 120 foot high, motorized crank-up tower, with a single tri-band antenna would be less expensive, more practical, and certainly more efficient.

At this point, two other factors should be mentioned. If your antenna is shooting through trees, you can count on a loss of anywhere from 1/4 to 3/4 of a db and if the trees are wet, upwards of 1 to 1 1/4 decibels. Also the surrounding terrain creating the ground reflection image for the proper angle of horizontal radiation must be considered. The optimum terrain would be flat ground for a radius of 5-6 miles or the antenna mounted atop a slight knoll with a ground downward angle of less than 20 degrees. Of course, we're not telling you to go out and sell your present homestead and move out to the country and survey the area for conditions mentioned above, but if you are in a set of circumstances which would dictate that, this is the type of terrain that should be looked for when wanting optimum conditions for the maximum efficiency based on the take-off angle of the antenna system.

As for our choice, in which monobander to pick as the best, let's look at it in this perspective:

1. Monobanders rated for 10, 15, 20 meters (three categories)
 2. 3, 4, 5, and 6 element arrays (four categories)
- So we have a total of twelve arrays to pick the best out of five manufacturers:

	Categories	1st place	2nd place	3rd place
1. Telrex	9	6	2	1
2. KLM	7	4	-	2
3. Wilson	6	2	2	1
4. Cushcraft	6	1	5	-
5. Hygain	7	-	1	4

Obviously, the "Kings of the Hill" are Telrex and KLM without a doubt, placing 10 first places in twelve categories; however, the cost of the Telrex equipment is not cheap; you'll pay for the performance and sturdiness. The total cost for the three bands in a 5 element array will be \$1133.00, and the KLM in a 4 element array will run \$730.00 and you'll only be down 1 or less db plus \$401.00 richer! Cushcraft, however, placed in the top three, six times, and their four element arrays can be purchased for \$370.00 and down less than 1 db from Telrex. Thus, Cushcraft has to be picked as the best dollar value versus performance, but remember will not compare to the construction strength of the Telrex systems. If you can afford the towers to hold the weight of the Telrex systems and don't mind the cost, then that's the way to go... however, if you want the performance, lighter weight but no sacrifice in strength and the best front to back ratios out, then KLM is for you... as noted, the economy/performance package is with Cushcraft!

GIVING THANKS TO YOURSELF



GIVING THANKS TO YOURSELF

Thanksgiving is a special kind of time.

It's the one day all year specifically set aside for reflecting on the many things for which we should all be thankful.

This year on Thanksgiving, take a few moments to reflect on all the things you have gained - and been able to give - over the years. *Have a nice one!!*



A preacher who had stated that there are 843 different kinds of sin found himself swamped with requests for the list. People seemed to think they were missing something.

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1984 OTVARC CHRISTMAS PARTY

Hey everyone, get ready for another "BIG EVENT". The annual club Christmas party is only 5 weeks away and the social committee has decided to put on one of the best parties this club has ever seen!

The club is planning on a large turnout so the same location was reserved as last year. The party will be held at St. Bartholomews Episcopal Church located at 11265 SW Cabot in Beaverton on December 15th. Activities start at 7:00 pm and directions will be published in next months newsletter.

Included in the enenings festivities will be a LIVE entertainment group called the "HARMONY HEIGHTS". This award winning barber shop quartet participated in the Northwest Barber Shop Contest held in Forest Grove last May. They came in 2nd at the "Society of Barber Shop Singing" district contest last month. If you like music you won't want to miss this!!!

In addition to all the singing we will have a Christmas tree, door prizes, raffles and a club "MC".(yet to be selected) The club will supply coffee, punch, mixers, ice, cups and ALL eating utensils. This is a BYOB affair.

We ask that you bring your favorite buffet item. Make it something light such as a cold cut tray, dessert or salad. Hot dishes will get cold. PLEASE label your dish or platter.

Your social committee will be meeting the last week in November to wrap up all details rgarding the party. If you have an interest in helping, you can reach the committee chairman (Paul Lucas) at 641-8703. Additional information will be seen in the December newsletter. Thank you.

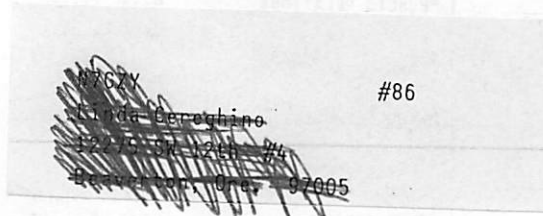
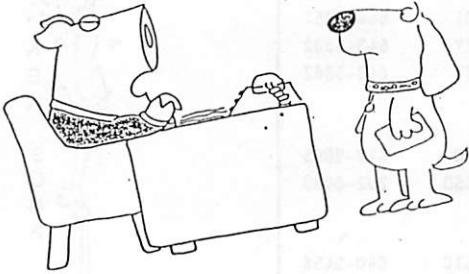
ONE MORE TIME: We have a need to increase our advertising income and the only way that can happen is if YOU lend a hand. Jeff Schultz, KQ7J, is getting to work on establishing a 'business card' ad page. His efforts can be enhanced greatly if the membership will assist. If you have a business that might benefit by advertising or have a friend in business, give a hand and call Jeff. The cost for an ad is a very low \$4.00 per month. WE NEED IT.....Thanks.



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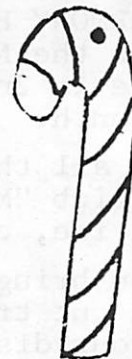
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